

**Final
Site-Specific Field Sampling Plan and
Site-Specific Safety and Health Plan Attachment
Former Ordnance Motor Repair Area
Parcels 75(7), 41(7), 42(7), 5(7), 6(7), and 66(7)**

**Fort McClellan
Calhoun County, Alabama**

**Delivery Order CK005
Contract No. DACA21-96-D-0018
IT Project No. 774645**

December 1998

Revision 1

Site-Specific Field Sampling Plan

Former Ordnance Motor Repair Area, Parcels 75(7), 41(7), 42(7), 5(7), 6(7), and 66(7)

**Final
Site-Specific Field Sampling Plan Attachment
Site Investigation at the Former Ordnance Motor Repair Area,
Parcels 75(7), 41(7), 42(7), 5(7), 6(7), and 66(7)**

**Fort McClellan
Calhoun County, Alabama**

Prepared for:

**U.S. Army Corps of Engineers, Mobile District
109 St. Joseph Street,
Mobile, Alabama 36602**

Prepared by:

**IT Corporation
312 Directors Drive
Knoxville, Tennessee 37923**

**Delivery Order CK005
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December 1998

Revision 1

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List of Acronyms

ACM	asbestos-containing material
ADEM	Alabama Department of Environmental Management
bgs	below ground surface
Braun	Braun Intertec, Incorporated
CERFA	Community Environmental Response Facilitation Act
CESAS	Corps of Engineers South Atlantic Savannah
CLP	Contract Laboratory Procedure
COPC	chemical(s) of potential concern
CSEM	conceptual site exposure model
DEH	Directorate of Engineering and Housing
DOD	U.S. Department of Defense
DQO	data quality objective
DRMO	Defense Reutilization Marketing Organization
EBS	environmental baseline survey
EPA	U.S. Environmental Protection Agency
ESE	Environmental Sciences and Engineering, Inc.
FOMRA	Former Ordnance Motor Repair Area
FTMC	Fort McClellan
GPS	global positioning system
IDW	investigation-derived waste
IT	IT Corporation
mg/kg	milligrams per kilogram
MOGAS	motor vehicle gasoline
NGVD	National Geodetic Vertical Datum
PID	photoionization detector
PSSC	potential site-specific chemical
QA/QC	quality assurance/quality control
QAP	installation-wide quality assurance plan
RCRA	Resource Conservation and Recovery Act
SAP	installation-wide sampling and analysis plan
SFSP	site-specific field sampling plan
SHP	installation-wide safety and health plan
SSHP	site-specific safety and health plan

List of Acronyms *(Continued)*

TCA	trichloroethane
THETA	THETA Engineering, Inc
TPH	total petroleum hydrocarbon
TRADOC	U.S. Army Training and Doctrine Command
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
UST	underground storage tank
VOC	volatile organic compound
VSI	visual site inspection
Weston	Roy F. Weston, Inc.
WP	installation-wide work plan

Executive Summary

In accordance with Contract No. DACA21-96-D-0018, Delivery Order CK005, IT Corporation (IT) will conduct site investigation activities at the Former Ordnance Motor Repair Area (FOMRA), Parcels 75(7), 41(7), 42(7), 5(7), 6(7), and 66(7), at Fort McClellan (FTMC), Calhoun County, Alabama, to determine the presence or absence of potential site-specific chemicals at this site. The purpose of this site-specific field sampling plan (SFSP) is to provide technical guidance for sampling activities at the FOMRA site.

The FOMRA, Parcel 75(7), is located in the central area of the Main Post. The SI for the FOMRA, Parcels 75(7), includes three different areas. One area contains 10 buildings, which comprise the actual FOMRA Buildings 326, 327, 333, 334, 335, 336, 337, 338, 339, and 340. The second area (the warehouse area) contains 19 buildings, mostly warehouses, that originally were used to store and/or distribute materials and equipment shipped in or out by rail. The building numbers in the warehouse area are 300, 303, 305, 308, 309, 310, 311, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324 and 325. Building 300 is an officer residence that is included in the warehouse area. The third area contains Building 328 (the Branch Exchange and classroom facility) and Former Building 329 (a military clothing store). The buildings in the three areas were listed together as Parcel 75(7) in the EBS (ESE, 1998). There is not a clear link between the three areas other than the EBS assigned parcel number.

The site is bordered by 18th Street on the north, 20th Street on the south, and 5th Avenue on the west. The Consolidated Maintenance Facility is across 3rd Avenue (northeast) from this site. The site covers approximately 40 acres and contains 31 buildings and 3 loading docks. Most of these buildings were built in the early 1940s; however, it is unknown when the FOMRA moved to this location. A fenced compound is located in the northeast corner of this site, southeast of Building T-334.

There are two active USTs at the site: a 2,500-gallon waste oil tank (Parcel 62[7]) and a 3,000-gallon heating oil tank (Parcel 41[7]). Five USTs have been removed and/or closed in place at this site.

Specifically, IT will collect 63 surface soil samples, 75 subsurface soil samples, 26 groundwater samples, 10 surface water samples, 10 sediment samples, and 5 depositional soil samples at this site. Potential contaminant sources at the FOMRA site include paint, paint products, solvents, small weapons cleaning solutions, metals, and petroleum products (e.g., gasoline, diesel, heating

oil, waste oil, and lubricants). Chemical analyses of the samples collected during the field program will include volatile organic compounds, semivolatile organic compounds, metals, chlorinated pesticides, polychlorinated biphenyls, chlorinated herbicides, and organophosphorus pesticides. In addition, sediment samples will be analyzed for total organic carbon and grain size. Results from these analyses will be compared with site-specific screening levels specified in the installation-wide work plan (WP) and regulatory agency guidelines.

This SFSP attachment to the installation-wide sampling and analysis plan (SAP) for the FOMRA will be used in conjunction with the site-specific safety and health plan (SSHP), the WP, and the installation-wide sampling and analysis plan (SAP). The SAP includes the installation-wide safety and health plan, waste management plan, and quality assurance plan. Site-specific hazard analyses are included in the SSHP.

1.0 Project Description

1.1 Introduction

The U.S. Army is conducting studies of the environmental impact of suspected contaminants at Fort McClellan (FTMC) in Calhoun County, Alabama, under the management of the U.S. Army Corps of Engineers (USACE)-Mobile District. The USACE has contracted IT Corporation (IT) to provide environmental services for the site investigation (SI) of the Former Ordnance Motor Repair Area (FOMRA), Parcels 75(7), 41(7), 42(7), 5(7), 6(7), and 66(7), under Delivery Order CK005, Contract No. DACA21-96-D-0018.

This site-specific field sampling plan (SFSP) attachment to the installation-wide sampling and analysis plan (SAP) (IT, 1998a) for FTMC has been prepared to provide technical guidance for sample collection and analysis at the FOMRA, Parcels 75(7), 41(7), 42(7), 5(7), 6(7), and 66(7). This SFSP will be used in conjunction with the site-specific safety and health plan (SSHP) developed for the FOMRA site, and the installation-wide work plan (WP) (IT, 1998b) and SAP. The SAP includes the installation-wide safety and health plan (SHP), waste management plan, and quality assurance plan (QAP). Site-specific hazardous analyses are included in the SSHP.

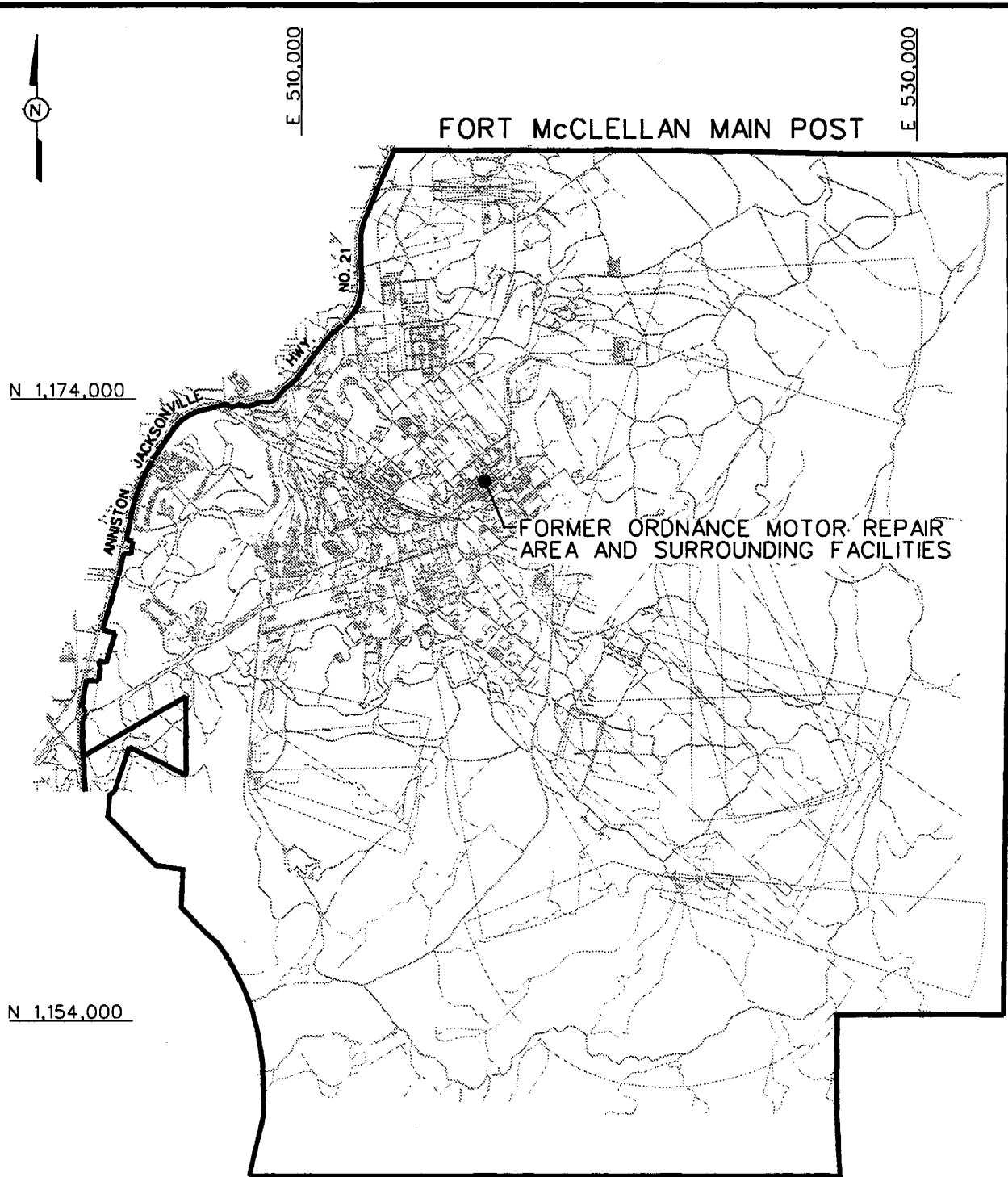
1.2 Site Description

The FOMRA, Parcel 75(7) is located in the central area of the Main Post (Figure 1-1). The site is bordered by 18th Street on the north, 20th Street on the south, and 5th Avenue on the west (Figure 1-2). The SI for the FOMRA, Parcels 75(7), includes three different areas. One area contains 10 buildings, which comprises the actual FOMRA, Buildings 326, 327, 333, 334, 335, 336, 337, 338, 339, and 340 (Figure 1-3). The second area (the warehouse area) contains 19 buildings, mostly warehouses, that originally were used to store and/or distribute materials and equipment shipped in or out by rail. The building numbers in the warehouse area are 300, 303, 305, 308, 309, 310, 311, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, and 325 (Figure 1-4). Building 300 is an officer residence that is included the warehouse area. The third area contains Building 328 (the Branch Exchange and classroom facility) and Former Building 329 (a military clothing store) (Figure 1-5). The buildings in the three areas were listed together as Parcel 75(7) in the EBS (ESE, 1998). There is not a clear link between the three areas other than the EBS assigned parcel number.


The site covers approximately 40 acres and consists of the buildings listed in Table 1-1. Table 1-1 also provides a brief description of the use of each building. There are several buildings at this

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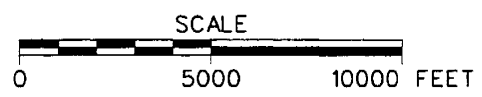
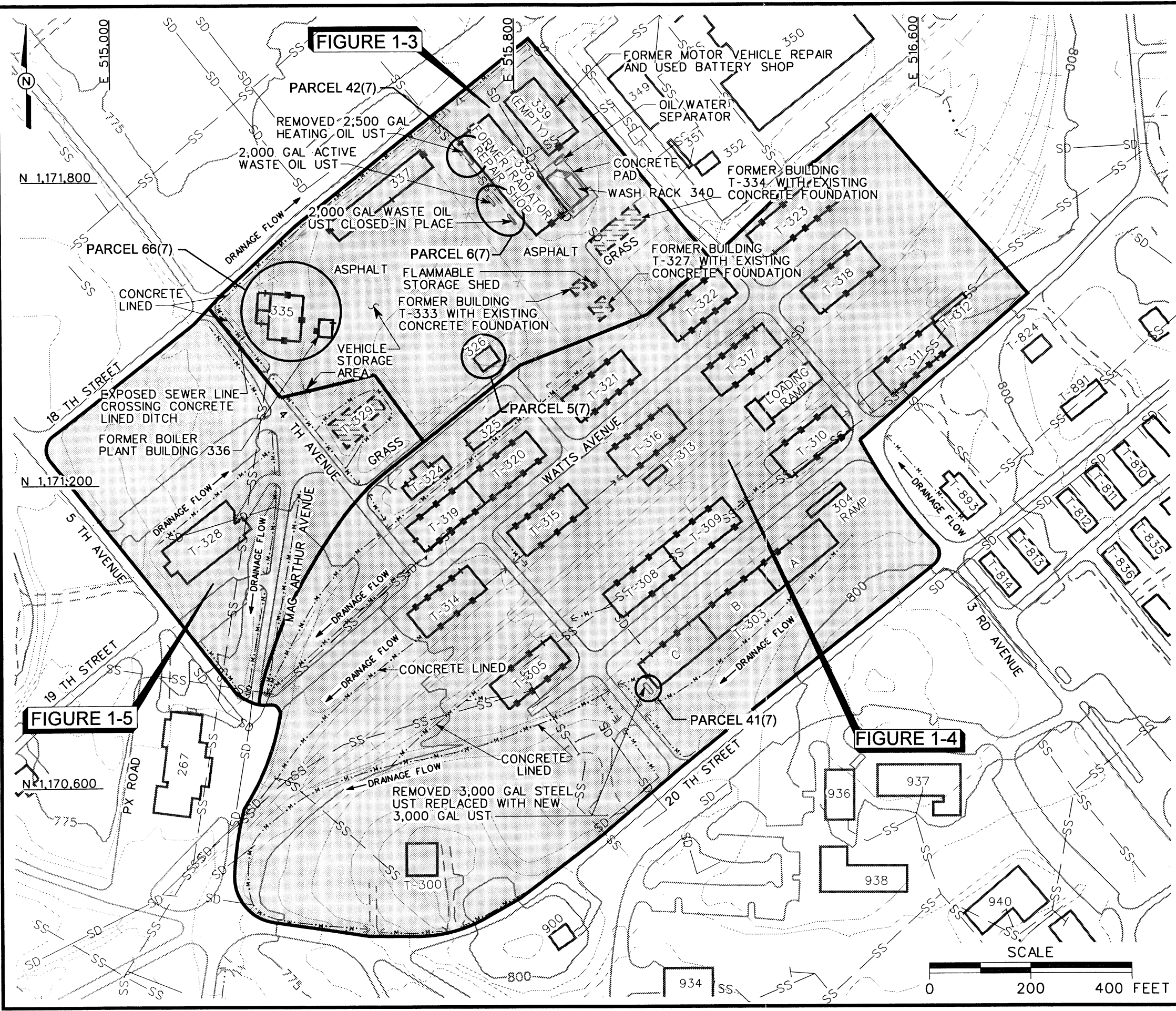


FIGURE 1-1
SITE LOCATION MAP
FORMER ORDNANCE MOTOR REPAIR
AREA AND SURROUNDING FACILITIES
PARCELS 75(7), 66(7), 42(7), 41(7),
6(7) AND 5(7)
 U. S. ARMY CORPS OF ENGINEERS
 MOBILE DISTRICT
 FORT McCLELLAN
 CALHOUN COUNTY, ALABAMA
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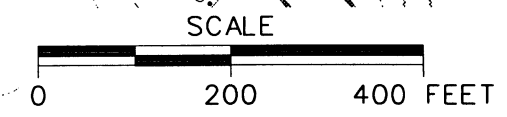
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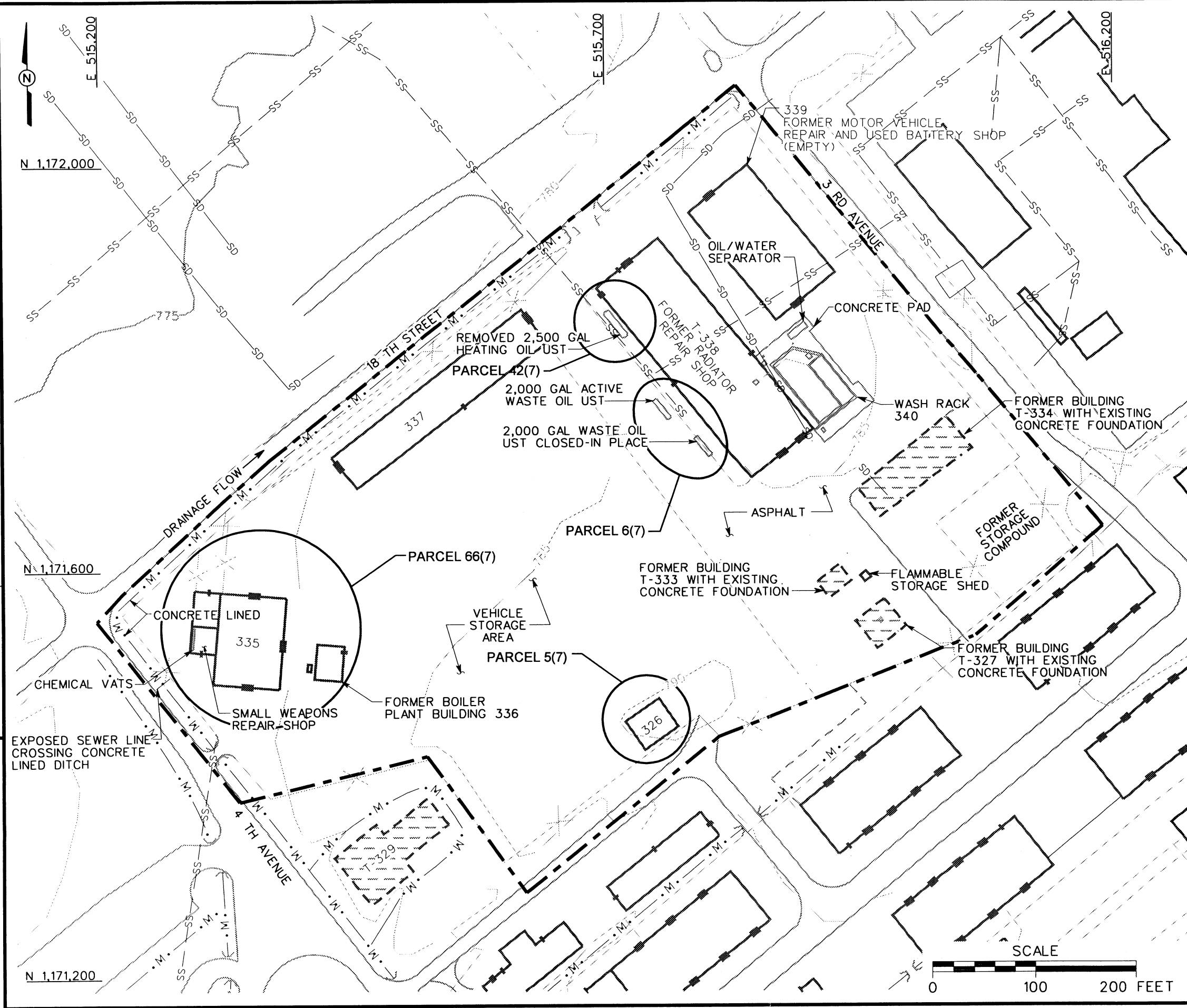
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 - PAVED ROADS AND PARKING
 - BUILDING
 - BUILDING REMOVED, ONLY FOUNDATION REMAINS
 - TOPOGRAPHIC CONTOURS
 - PARCEL BOUNDARY
 - BRIDGE
 - CULVERT WITH HEADWALL
 - SURFACE DRAINAGE / CREEK
 - MANMADE SURFACE DRAINAGE FEATURE
 - FENCE
 - RAILROAD
 - SANITARY SEWER LINE (SS)
 - STORM DRAINAGE LINE (SD)

FIGURE 1-2
SITE MAP
FORMER ORDNANCE MOTOR REPAIR
AREA AND SURROUNDING FACILITIES
PARCELS 75(7), 41(7), 42(7), 5(7),
6(7) AND 66(7)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
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CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018



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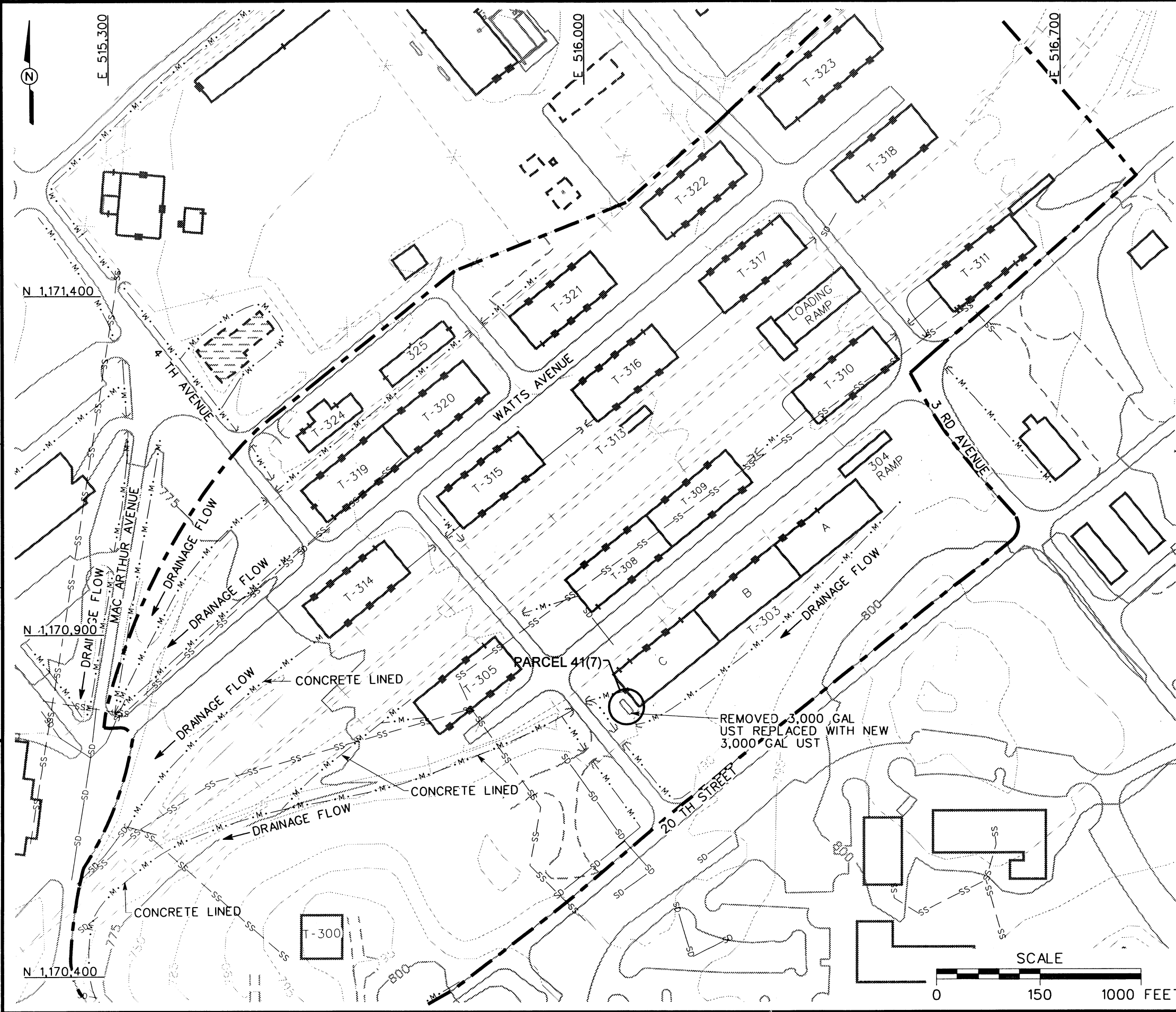
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- BRIDGE
- CULVERT WITH HEADWALL
- SURFACE DRAINAGE / CREEK
- MANMADE SURFACE DRAINAGE FEATURE
- FENCE
- RAILROAD
- SANITARY SEWER LINE
- STORM DRAINAGE LINE

FIGURE 1-3
SITE MAP
BUILDINGS 326, 327, 333, 334, 335, 336, 337, 338, 339 AND 340
PARCELS 66(7), 42(7), 6(7) AND 5(7)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018

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KEY PLAN



LEGEND

- UNIMPROVED ROADS AND PARKING
- PAVED ROADS AND PARKING
- BUILDING WITH DOOR
- BUILDING REMOVED, ONLY FOUNDATION REMAINS
- TOPOGRAPHIC CONTOURS
- FIGURE BOUNDARY
- BRIDGE
- CULVERT WITH HEADWALL
- SURFACE DRAINAGE / CREEK
- MANMADE SURFACE DRAINAGE FEATURE
- FENCE
- RAILROAD
- SANITARY SEWER LINE
- STORM DRAINAGE LINE

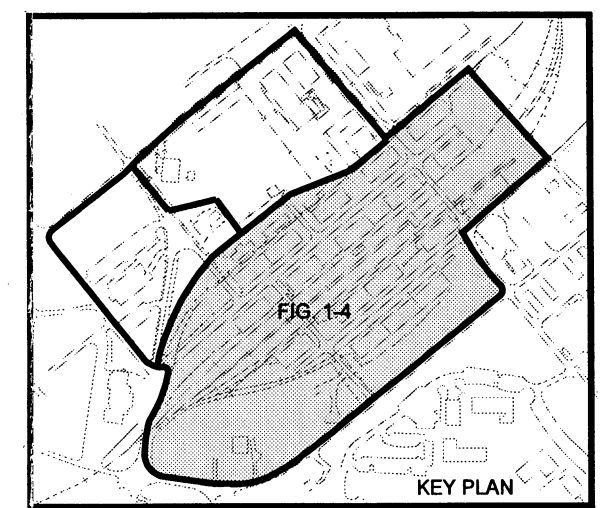
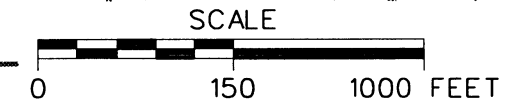
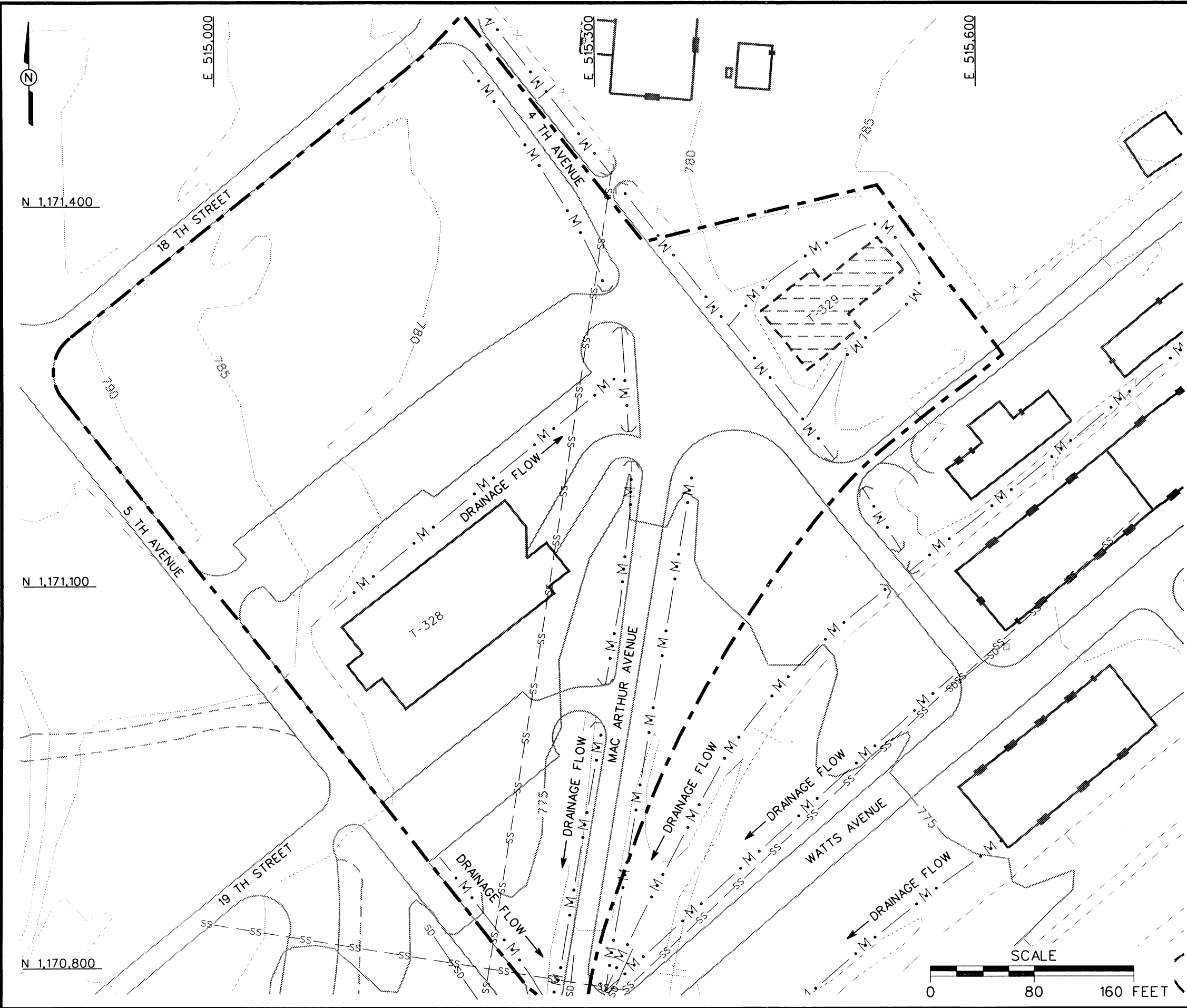


FIGURE 1-4
SITE MAP
BUILDINGS 300, 303, 305, 308, 309,
310, 314, 315, 316, 317, 319, 320, 321,
322, 324 AND 325
PARCEL 75(7)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018



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- LEGEND**
- UNIMPROVED ROADS AND PARKING
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 - SANITARY SEWER LINE
 - STORM DRAINAGE LINE

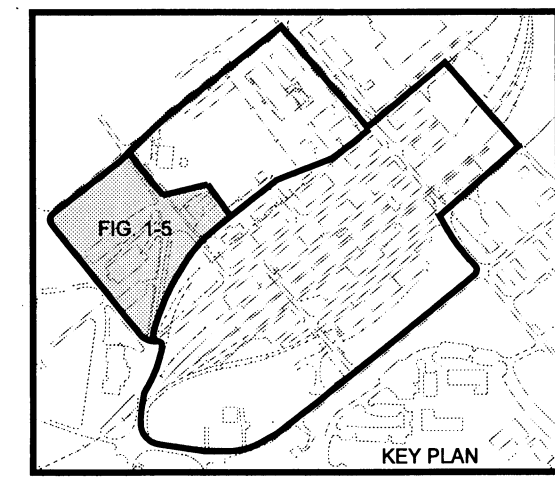


FIGURE 1-5
SITE MAP
BUILDINGS 328 AND 329
PARCEL 75(7)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018

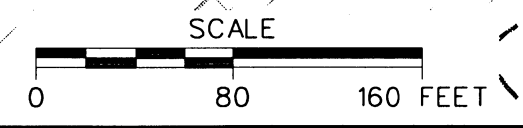


Table 1-1

**Buildings Located at the Former Ordnance Motor Repair Area
Parcels 75(7), 41(7), 42(7), 5(7), 6(7), and 66(7)
Fort McClellan, Calhoun County, Alabama**

(Page 1 of 2)

Building No.	See Figure No.	FTMC Building Description ^a	Year ^b Built	Parcel No.	Additional Building Description	Building Reuse ^b
300	1-4	UOQ Transient	1917	75(7)	Officers residence, "Berman house;" scheduled to be transferred to the Justice Department.	Retain
303	1-4	Storage GP Inst.	1942	75(7)	Central Issue Facility, Directorate of Logistics, used for storage of military equipment issued to troops. Also contains Parcel 41(7) for a 3000-gallon heating oil UST at southwest end of building. This building is scheduled to be transferred to the Justice Department.	Retain
304	1-4	Loading Ramp	c	75(7)	Loading dock and ramp.	c
305	1-4	Storage GP Inst.	1942	75(7)	MWR Central Warehouse & Supply NAF PBO Campsites/Pavilions - rental equipment and warehouse storage.	Retain
308	1-4	Storage GP Inst.	1941	75(7)	Commissary storage.	Retain
309	1-4	Storage GP Inst.	1941	75(7)	Warehouse storage.	Retain
310	1-4	Storage GP Inst.	1941	75(7)	Storage and general purpose.	Retain
311	1-4	Storage GP Inst.	1941	75(7)	DRMO Property Disposal used for storage space.	Retain
312	1-4	Loading Ramp	c	75(7)	Loading dock and ramp.	c
313	1-4	Loading Ramp	c	75(7)	Loading dock and ramp.	c
314	1-4	Storage GP Inst.	1941	75(7)	Storage and general purpose.	Retain
315	1-4	Storage GP Inst.	1941	75(7)	Furniture Management BR DEH - barracks furnishings storage.	Retain
316	1-4	Storage GP Inst.	1941	75(7)	Storage and general purpose.	Retain
317	1-4	Storage GP Inst.	1948	75(7)	Storage and general purpose.	Retain
318	1-4	Storage GP Inst.	1941	75(7)	Storage and general purpose.	Retain
319	1-4	Storage GP Inst.	1941	75(7)	Storage and general purpose.	Retain
320	1-4	Storage GP Inst.	1941	75(7)	Storage and general purpose.	Retain
321	1-4	Storage GP Inst.	1941	75(7)	Storage and general purpose.	Retain
322	1-4	Exchange Warehouse	1941	75(7)	Warehouse storage.	Retain
323	1-4	Storage GP Inst.	1941	75(7)	Storage and general purpose.	Retain
324	1-4	AT ENL Barracks	1941	75(7)	Currently used as a barracks. Building was used as an administration building until 1976.	Retain
325	1-4	Admin Gen. Purpose	1941	75(7)	Administration Building	Demolish
326	1-3	Storage GP Inst.	1941	75(7)	Possibly a former FTMC gas station that also contains Parcel 5(7) for 2 removed 500-gallon USTs. There are not any closure reports for the removal of the USTs, however, excavation sample results were found in the file from the removal of the USTs.	Demolish
327	1-3	not listed	c	75(7)	Only the concrete foundation remains. Originally a latrine, but appears to have been used to store petroleum products. This building reportedly burned down in 1996.	d
328	1-5	ACES FAC	1941	75(7)	Branch Exchange and Classroom Building	Demolish
329	1-5	not listed	c	-----	Only the concrete foundation remains.	Demolish
333	1-3	not listed	c	-----	Only the concrete foundation remains. Reportedly used to store supplies for paint booth.	d
334	1-3	not listed	c	-----	Only the concrete foundations remains. Originally a motor pool vehicle maintenance facility for engine change outs and air conditioning system change outs.	d
335	1-3	Maint. Storage	1941	66(7)	This building appears to have been used for military motorized tank repair. This building had the Small Weapons Repair Shop attached to the northwest side. The Small Weapons Repair Shop Operation moved to Building 350 in 1991. Building 335 is now inactive and condemned.	Demolish
336	1-3	Heat Plant Gas	1941	66(7)	Boiler plant (inactive and empty).	c

Table 1-1

**Buildings Located at the Former Ordnance Motor Repair Area
Parcels 75(7), 41(7), 42(7), 5(7), 6(7), and 66(7)
Fort McClellan, Calhoun County, Alabama**

(Page 2 of 2)

Building No.	See Figure No.	FTMC Building Description^a	Year^b Built	Parcel No.	Additional Building Description	Building Reuse^b
337	1-3	Maint. Storage	1941	75(7)	The building is currently used for storage of building maintenance materials, supplies, and repair parts.	Demolish
338	1-3	Refuse/Garb. Building	1941	75(7)	Former Radiator Repair Shop, now used as the FTMC recycling center. Also contains Parcels 6(7) for an active 2500-gallon waste oil UST and closed-in place UST and Parcel 42(7) for an active 2500-gallon heating oil UST.	Demolish
339	1-3	Maint Storage	1943	75(7)	Originally used for motor vehicle repair and a used battery collection building.	Demolish
340	1-3	Washrack	1991	75(7)	Wash rack and oil/water separator, rebuilt in 1991.	c

^aFort McClellan Building Number listing provided by Fort McClellan Directorate of Engineering and Housing, May 13, 1998.

^bFort McClellan Comprehensive Reuse Plan, prepared by Fort McClellan Reuse and Redevelopment Authority of Alabama under contract to the Calhoun County Commission, November 1997.

^cNot listed in the Fort McClellan Comprehensive Reuse Plan.

^dBuilding has been demolished.

site that are not discussed in the following sections because there was not any information available other than the listing provided in Table 1-1. Most of these buildings were built in the early 1940s; however, it is unknown when the FOMRA moved to this location (Environmental Sciences and Engineering, Inc. [ESE], 1998). A fenced compound that appears to be for material and equipment storage is located in the southeast of former Building T-334. The Consolidated Maintenance Facility (Buildings 349 and 350) is across 3rd Avenue (northeast) from this site.

There are two active underground storage tanks (UST) at the site: a 2,500-gallon waste oil tank at (Parcel 6[7]) (Figure 1-3) and a 3,000-gallon heating oil tank (Parcel 41[7]) (Figure 1-4). Five USTs have been removed and/or closed in place at the site. Table 1-2 lists the USTs that have been recorded at the site and Chapter 2.0 presents the available details of the UST removal activities.

Building 300, the UOQ Transient Building, known as the “Berman House,” is located at the southern edge of Parcel 75(7) (Figure 1-4). This building was identified as containing asbestos-containing materials (ACM), but the exposure potential to the ACMs was considered to be low (ESE, 1998). This facility is used as an officer’s residence and is not addressed in this SFSP.

Building 303, Parcel 41(7) is currently used as the Central Issue Facility, Directorate of Logistics building. Building 303, located in the southern portion of the warehouse area, is used to issue military equipment to troops (Figure 1-4). A 3000-gallon heating oil UST is located at the west end of the building. The original UST was removed in 1996 and replaced (Table 1-2). See Chapter 2.0 for the details of the UST removal activities.

Building 326, Parcel 5(7), at one time had two USTs, and was possibly a former FTMC gas station (Figure 1-3). Reportedly, one 500-gallon motor vehicle gasoline (MOGAS) UST and one 500-gallon diesel UST was located at this building. These USTs were removed sometime between 1990 and 1991. However, closure reports for the removal of the USTs are not available (ESE, 1998). See Chapter 2.0 for the details of the UST removal activities.

Former Building 327 was originally a latrine, and the center wall was later removed (ESE, 1998) (Figure 1-3). It appears that this building was historically used for storing petroleum products. It is reported that oils and paints were stored in the building and that the floor did not drain well (ESE, 1998). Oil stains are located on the floor around two drains. This building was observed during the environmental baseline survey (EBS) visual site inspection (VSI) in early 1996. On a

Table 1-2

**USTs Recorded at the Former Ordnance Motor Repair Area
Parcels 75(7), 41(7), 42(7), 5(7), 6(7) and 66(7)
Fort McClellan, Calhoun County, Alabama**

Building Number	Parcel Number	Tank Contents	Date Installed	Tank Disposition	Tank Size (gal)	Tank Material	Date Closed/removed	Depth to Water(ft)	Piping Removed	Amount of Soil Removed	Sampled
T-303	41(7)	Heating oil	1978	Removed	3000	Steel	1996	6	Yes	Approx. 24 yds ³	c
	41(7)	Heating oil	1996	Replacement	3000	Fiberglass	Active	N/A ^a	N/A ^a	N/A ^a	N/A ^a
326	5(7)	Diesel	1975	Removed	500	Steel	1990-1991	N/A ^b	N/A ^b	N/A ^b	Yes
	5(7)	MOGAS	1975	Removed	500	Steel	1990-1991	N/A ^b	N/A ^b	N/A ^b	Yes
T-338	6(7)	Waste oil	1982	Closed in place	2000	Steel	1994	N/D	Yes	Approx. 3 yds ³	Yes
	6(7)	Waste oil	1994	Replacement	2500	Fiberglass	Active	N/A ^a	N/A ^a	N/A ^a	N/A ^a
	42(7)	Heating oil	N/A ^b	Removed	2500	Fiberglass	1996	8	Yes	Approx. 3.5 yds ³	c

^aInformation not applicable.

^bInformation not available.

^cOnly the excavated stockpile was sampled.

subsequent visit to this site in the fall of 1996 by ESE, this building was found to have burned down. This building was reportedly connected to a 6-inch sanitary sewer line (ESE, 1998).

Former Building T-333 was located behind the Radiator Repair Shop, Building 338 (Figure 1-3). Although Building T-333 is no longer present, a building foundation exists with a storm drain in the center. Reportedly, this building stored paint supplies for the paint booth (ESE, 1998). This building has flooded in the past when the sewer drain backed up. The paint supplies were disposed of as wastes in 1993 or 1994 (ESE, 1998). The flooding is the only reported incident at this building.

Former Building T-334 was originally a motor pool area. Organized maintenance was performed at this location on military vehicles from an unknown date to 1991 (ESE, 1998) (Figure 1-3). The primary operations were engine change-outs and air-conditioning system repairs. A large all-wheel drive balancing station was located in this building; the building was demolished in 1993 or 1994. The balancing station was backfilled with clean fill, primarily clay (ESE, 1998). This building had a storm sewer connection, which could have been linked to the oil/water separator; however, the 1946 sewer map does not show the connection (ESE, 1998). The only remnant of the building is the concrete pad. There have not been any documented spills or releases at this area.

The fenced storage compound located southeast of Building T-334 was reportedly used to store spent solvents and oils used at the Former Fire Training Pit located across 3rd Avenue (Figure 1-3). The Former Fire Training Pit is being investigated under a separate SI for Parcel 77(7). A 1982 report estimated 500 gallons of solvent were stored here in 55-gallon drums (ESE, 1998). A 1973 aerial photograph shows this fenced area to be unpaved (ESE, 1998). Currently, this area contains one flat-bottomed aluminum boat and three small boat trailers. The fenced storage compound surface has grown up with weeds. There have not been any documented releases at this site.

Building 335 contains the Small Weapons Repair Shop (Parcel 66[7]), where weapons, such as the M-16 rifle, were stored after a training exercise (Figure 1-3). It appears that the Small Weapons Repair Shop only occupied a small room on the northwest side of Building 335. It is reported that the main part of Building 335, with its high ceiling with suspended cable hoists, was used primarily for military motorized tank repair.

In the Small Weapons Repair Shop, the weapons were disassembled and cleaned using various solutions and solvents, then stored until the next exercise. The shop was built in 1941; it is not known when operations began at this location. The operation was moved across 3rd Avenue to the Consolidated Maintenance Facility, Building 350, in approximately 1991. Building 335 was maintained by the Alabama National Guard for boiler plant storage, but is currently empty (ESE, 1998). Historically, weapons were brought to this repair shop (at Building 335), degreased with 1,1,1-trichloroethane (TCA) in a vapor degreaser, and then stripped with a caustic solution, using small vats approximately 14 inches wide by 36 inches long by 20 inches deep. Blueing/ Parkerizing operations were also conducted at the shop. It appears that only one vat was used for each solution.

Fluids used during the weapons cleaning process are as follows (ESE, 1998):

- Rinse Tank, Acid Cycle contained water for rinsing weapons after treatment in the phosphate-coating compound (Parkerizing) tank and discharged to sanitary sewer.
- Preservative Oil Tank, Acid Cycle contained cutting fluid used to treat weapons after treatment with sodium dichromate (blueing). The waste oil was turned over to the Defense Reutilization and Marketing Office (DRMO).
- Rinse Tank, Plating Cycle contained water used to rinse weapons after treatment in black oxide (Parkerizing) and discharged to the sanitary sewer.
- Preservative Oil, Plating Cycle contained cutting fluids used to treat weapons after rinse in the water tank. The waste oil was turned over to the DRMO.

Two older cleaning units (a bead blaster and a shot blaster) were reported to be remaining in Building 335 (ESE, 1998). Neither of these units reportedly were used after 1987 (Roy F. Weston, Inc. [Weston], 1990). These blaster units do not remain in the building and were not found in the area surrounding Building 335. The blast waste material were not found and there is not any historical information available concerning the location where blast waste material was stored.

On Friday, December 21, 1985, approximately 30 gallons of cutting fluid were released from this building when a drain valve was left open and fluid flowed into a pipe that led to the sanitary sewer system. This sewer pipe had been recently broken or disconnected at a point where it crossed a newly constructed concrete ditch. The suspected location of the exposed sanitary sewer pipe that crossed the cement-lined ditch is shown in Figure 1-3. This ditch drained into nearby Cane Creek near 20th Street. The cutting fluid emulsified with the water in the creek and

changed the color of the water milky white for approximately 400 yards downstream of the discharge.

On the following Monday, there was not any evidence of emulsified oils, with the exception of a slight sheen on the water. The constituents of the cutting fluid are not listed as hazardous waste under Resource Conservation and Recovery Act (RCRA). The results from the analyses indicated that this fluid did not exhibit any characteristics based on corrosivity or the extraction procedure toxicity that would qualify it as a hazardous waste. This spill was therefore classified as an oil spill.

A run report indicates that the FTMC Fire Department responded to the cutting fluid spill (ESE, 1998). The Directorate of Engineering and Housing (DEH), U.S. Environmental Protection Agency (EPA), U.S. Army Training and Doctrine Command (TRADOC), and ADEM were notified of this spill. TRADOC and EPA were satisfied that FTMC had implemented appropriate spill response procedures (ESE, 1998). ADEM responded a week later with approval (ESE, 1998). The line was later repaired and now runs across the ditch. There was not any other documentation on this spill identified.

Weston (1990) reported the potential for discharge of phosphoric acid, chromic acid, preservative oils, alkaline solutions, black oxides, and rinse waters to a storm sewer drain. Upon inspection of sanitary and storm sewer maps during the EBS, it was determined that only a single sanitary sewer line runs to the building (ESE, 1998) (Figure 1-3).

During the EBS VSI, one full unlabeled drum, dated 1991, and two gym lockers filled with paint cans were discovered behind Building 335. Several other unlabeled drums are located inside the main building. The contents and volumes of these drums were not determined because they were placed behind stacks of mattresses and bed frames. Some of the paint cans were rusty and half used; other cans had no labels. Some of the cans had leaked. All of these items had apparently been left by the Alabama National Guard during some work at the building several years before (ESE, 1998). These items were not present behind Building 335 during a site visit by IT in December 1998.

Building 336, a small empty, inactive boiler plant building, is located adjacent (east) to Building 335 (Figure 1-3). This plant has been inactive for some time. There is not any other information available concerning dates of operation or past activities at this building (ESE, 1998).

Building 338 was the Radiator Repair Shop for the FOMRA and was used from an unknown date to 1991 (Figure 1-3). Radiators were drained and either repaired or taken out of service. A paint booth was located in this building and was used to store paint and paint thinners. A lead acid battery maintenance shop was also located in Building 338. Although a sanitary sewer line is connected to the building, a floor drain discharges to the oil/water separator, which then discharges to the storm sewer. Operations were terminated because the sump located outside the building continually filled with water. The radiator repair operation moved northeast across 3rd Avenue to the Consolidated Maintenance Facility (Building 349 and 350) in 1991 (ESE, 1998). Building 338 was connected to the sanitary sewer by a 6-inch line. Potential discharges from this building include metals, battery fluids, paint, solvents, antifreeze, and motor oil.

The FTMC recycling center moved into Building 338 in 1992 or 1993. The recycling center collects paper, aluminum, glass, and cardboard (ESE, 1998). One 2,500-gallon heating oil UST (Parcel 42[7]) was identified at this building and was later removed in 1996 (Figure 1-3). Also, as part of the motor pool maintenance operation, a 2,000-gallon waste oil UST (Parcel 6[7]) was installed at Building 338 in 1982 (Figure 1-3). This 2,000-gallon UST (Parcel 6[7]) was closed in place in 1994 and replaced with a 2,500-gallon UST. Soil samples were collected during closure and analyzed for total petroleum hydrocarbon (TPH) and total lead. High levels of TPH were detected in the pipe trench. There was not any groundwater sampling conducted at this site. The closure report concluded that a petroleum release had occurred on site and that the vertical and horizontal extent of contamination in the soil had not been determined (Braun Intertec Corporation [Braun], 1995). See Chapter 2.0 for details of the UST removal activities.

Building 339 was formerly used for motor vehicle repair, but little is known of the former operations at this building (Figure 1-3). A 1982 memorandum regarding proper turn-in procedures for used batteries instructed all military vehicle users to turn used batteries into Building 339 for inspection (ESE, 1998). This building is connected to the sanitary sewer. There have not been any spills or releases have been documented at this site.

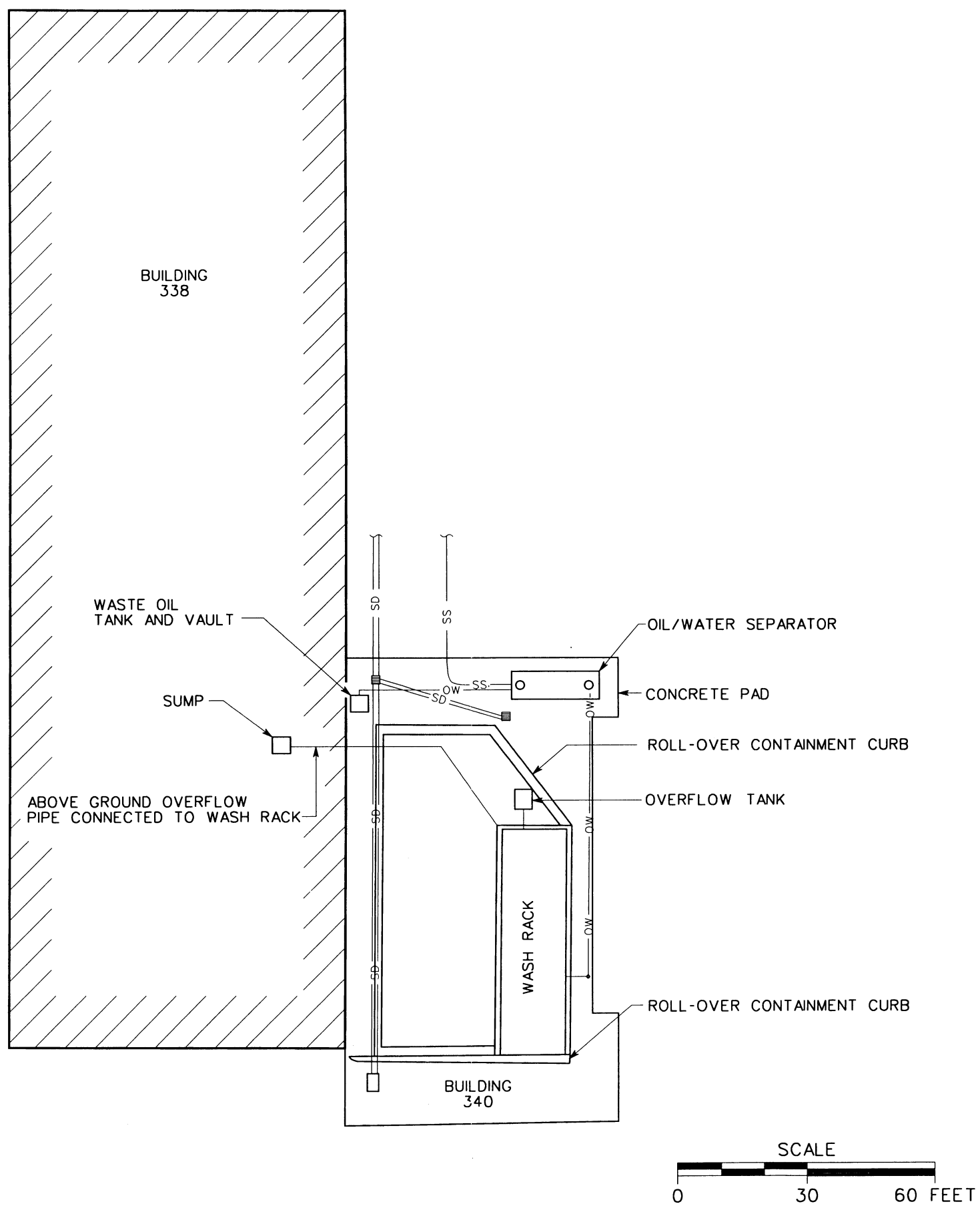
Building 340 was built around 1941 with a baffle-type oil/water separator as part of the Automotive Mechanical Repair Branch (Figure 1-3). A vehicle wash rack is also located here. This wash rack and oil/water separator facility was rebuilt in 1991 and now has a settling basin attached to a coalescing plate oil/water separator that discharges to the sanitary sewer. It was reported in 1993 that this wash rack drainage system appeared to be clogged, and the wash rack was not currently being used (EBS, 1998). However, during an IT site visit in November 1998,

the wash rack appeared to be operational. A layout map of the washrack drainage system is provided in Figure 1-6.

The elevation at the site ranges from approximately 775 feet to 800 feet (National Geodetic Vertical Datum [NGVD] of 1929). Most of the site has been paved, especially around the original FOMRA buildings (Figure 1-3). There are some unpaved grass and gravel surface areas around the warehouse buildings, southeast of Building 303 and in the southwestern section around Building 300 (Figure 1-4). The surface areas around Buildings 328 and 329 are grassed, except for the streets and parking lots shown in Figure 1-5. In the FOMRA area, surface water drains north or northwest from Building 326 toward Buildings 335 and 337 (Figure 1-3). Also, surface water drains north or northeast in areas near Buildings 334 and 338 (Figure 1-4). In the warehouse area (Figure 1-4), surface water drains to the southeast along the manmade surface drainage features. Surface drainage around Building 328 is to the southeast toward Mac Arthur Avenue (Figure 1-5). Local shallow groundwater direction at the site is probably controlled by topography, therefore, groundwater direction in the residuum is similar to the surface drainage.

The soils found at this site are composed of the Rarden series soils (U.S. Department of Agriculture [USDA], 1961). This series consists of moderately well-drained, strongly acid to very strongly acid soils. These soils generally occur in large areas on wide shale ridges having slopes of 2 to 10 percent. These soils have developed from the residuum of shale and fine-grained, platy sandstone or limestone. In eroded areas, the surface soil is brown silt loam. The subsoil is yellowish-red clay or silty clay mottled with strong brown color. Concretions and fragments of sandstone, up to one-half-inch diameter, are common on the surface and in the soil; however, the surface of some areas have sandstone gravel 3 inches in diameter.

Soils at this site fall into the Rarden silty clay loams (ReB3) (USDA, 1961). This mapping unit consists of severely eroded soils that have 2 to 6 percent slopes and a thin solum. The color of these surface soils (2- to 4-inch layer) is yellowish-red or dark-brown silty clay loam. The depth to bedrock is approximately 1.5 to 4 feet below ground surface (bgs). The depth to the water table is typically greater than 20 feet bgs; however, groundwater was encountered at less than 10 feet bgs during the UST removals at the north and south ends of the site. Bedrock was encountered in one excavation at approximately 8 feet bgs.




LEGEND

- SS SANITARY SEWER LINE
- SD STORM DRAINAGE LINE
- OW OIL/WATER LINE

FIGURE 1-6
DRAINAGE SYSTEM
BUILDING 340 WASHRACK
FORMER ORDNANCE MOTOR REPAIR
PARCEL 75(7)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018

 INTERNATIONAL
TECHNOLOGY
CORPORATION

1.3 Scope of Work

The scope of work for activities associated with the site investigation at the FOMRA site, as specified by the statement of work (USACE, 1998), includes the following tasks:

- Develop the SFSP attachment.
- Develop the SSHP attachment.
- Collect 63 surface soil samples, 75 subsurface soil samples, 26 groundwater samples, 10 surface water samples, 10 sediment samples, and 5 depositional soil samples to determine whether potential site-specific chemicals (PSSC) are present at the FOMRA site and to provide data useful for supporting any future planned corrective measures and closure activities.

At completion of the field activities and sample analyses, draft and final SI summary reports will be prepared to evaluate the absence or presence of PSSCs at this site, and to recommend further actions, if appropriate.

2.0 Summary of Existing Environmental Studies

An EBS was conducted by ESE to document current environmental conditions of all FTMC property (ESE, 1998). The study was to identify sites that, based on available information, have no history of contamination and comply with U.S. Department of Defense (DOD) guidance for fast track cleanup at closing installations. The EBS also provides a baseline picture of FTMC properties by identifying and categorizing the properties by seven criteria.

1. Areas where no storage, release, or disposal (including migration) has occurred.
2. Areas where only storage has occurred.
3. Areas of contamination below action levels.
4. Areas where all necessary remedial actions have been taken.
5. Areas of known contamination with removal and/or remedial action underway.
6. Areas of known contamination where required response actions have not been taken.
7. Areas that are not evaluated or require further evaluation.

The EBS was conducted in accordance with the Community Environmental Response Facilitation Act (CERFA) (CERFA-Public Law 102-426) protocols and DOD policy regarding contamination assessment. Record searches and reviews were performed on all reasonably available documents from FTMC, Alabama Department of Environmental Management (ADEM), EPA Region IV, and Calhoun County, as well as a database search of Comprehensive Environmental Response, Compensation, and Liability Act-regulated substances, petroleum products, and Resource Conservation and Recovery Act-regulated facilities. Available historic maps and aerial photographs were reviewed to document historic land uses. Personal and telephone interviews of past and present FTMC employees and military personnel were conducted. In addition, VSIs were conducted to verify conditions of specific property parcels.

At Building 303, a single UST (Parcel 41[7]) was located on the west end of the building (Figure 1-2). This 3000-gallon heating oil tank (Parcel 41[7]) was removed April 29, 1996. Approximately 24 cubic yards of soil was excavated and stockpiled on site. A soil sample was collected from the stockpile for analysis for total petroleum hydrocarbons. The stockpile sample result was 179 (milligrams per kilograms [mg/kg]). There were not any other samples collected

because all of the potentially contaminated soil was reportedly excavated (THETA Engineering, Inc. [THETA], 1996a). Groundwater was encountered at approximately 6 feet bgs.

Two USTs were located on the west side of Building 338, the former Radiator Repair Shop; a 2,000-gallon waste oil UST (Parcel 6[7]) and a 2,500-gallon heating oil UST (Parcel 42[7]) (Figure 1-3). The original 2,000-gallon waste oil UST (Parcel 6[7]) was located adjacent to the wall footing and, therefore, was closed in place on May 5, 1994. The ADEM closure report is contained in the IT UST Summary Report (IT, 1998c). A replacement 2500-gallon waste oil UST (Parcel 6[7]) was installed in 1994.

Waste oil was placed into a sink in Building 338 and was gravity fed by an underground plastic pipe to the waste oil UST. The piping was removed during the closure and apparent petroleum-contaminated soil was found in the excavation trench. The soil was removed and placed in a stockpile. Petroleum-contaminated soil was found where the pipe connected to the UST. This soil was removed and added to the stockpile. The excavated soil removed from the top of the tank was added to the stockpile. The stockpiled soil (approximately 3 cubic yards) was removed and thin-spread at a Base landfill (Braun, 1995). There were no holes observed in the UST; therefore, the tank was filled with a concrete slurry.

Only one soil boring was installed near the 2,000-gallon waste oil UST (Parcel 6[7]) because of the location of the UST next to Building 338 and overhead power lines. This soil boring was placed southwest of the closed-in-place UST (Figure 2-1). Weathered bedrock was encountered at 6.0 feet bgs and refusal was reached at 7.5 feet bgs (Braun, 1995). It was not possible to determine whether groundwater was encountered in the excavation because of two broken water mains flooding the excavation; one on each side of the closed tank (Figure 2-1). According to FTMC, these water mains had been broken for several months (Braun, 1995). Water was encountered in the soil boring at about 5 feet bgs.

In addition to the soil boring sample (collected at 7.5 feet bgs) at Building 338, Parcel 6(7), two soil samples were collected from the piping trench (2 feet bgs and 4 feet bgs) and one soil sample was collected from the stockpile. These sample results are listed in Table 2-1. Braun Intertec, Inc. (the UST removal contractor) concluded from the sample results that a petroleum hydrocarbon release did occur. The vertical and horizontal extent of petroleum-contaminated soils was not determined during the UST closure activities (Braun, 1995).

22 DEC 98
 DBILLING
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 STARTING DATE: 09/30/98
 DRAWN BY: D. BILLINGSLEY
 DATE LAST REV.:
 DRAWN BY:
 DRAFT, CHK. BY: A. MAYILA
 ENGR. CHK. BY: J. YACOB
 INITIATOR: J. RAGSDALE
 DWG. NO.: 774645es.223
 PROJ. NO.: 774645

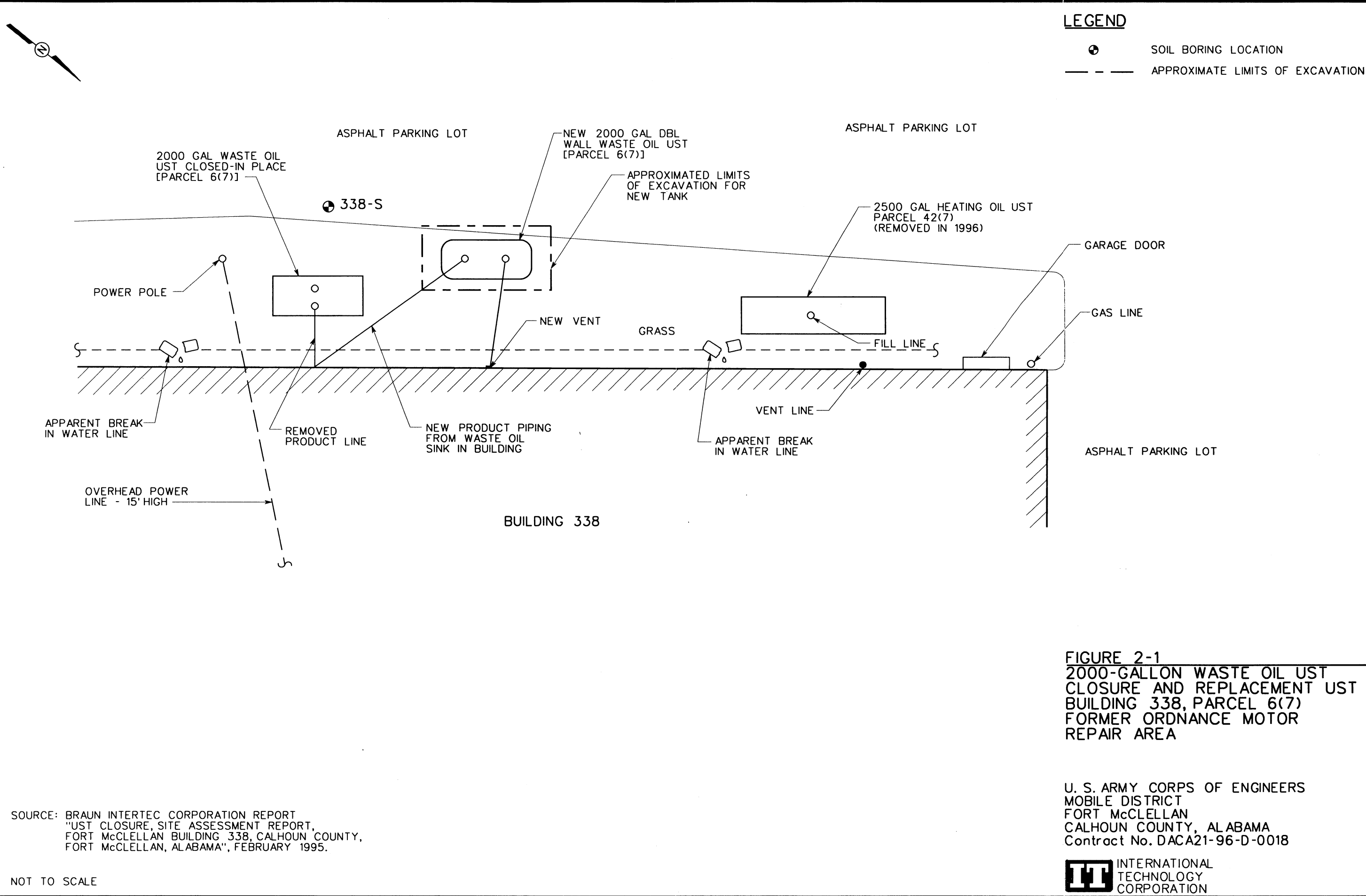


Table 2-1

**Historical Sample Data^a for the Closure In-Place of the 2,000-Gallon Waste Oil UST, Building 338, Parcel 6(7)
Former Ordnance Motor Repair Area
Fort McClellan, Calhoun County, Alabama**

Sampling Task	Sample Number	Sample Location Sample Description	Sample Date	Sample Depth (feet)	Analytical Parameters	
					Total Lead (mg/kg)	TPH ^b (mg/kg)
Samples collected after UST and piping removal	94-0431-12	338-S	4/26/94	7.5	20	< 5
	94-0431-42	Stock pile	4/28/94	N/A	120	650
	94-0431-20	Pipe trench "A"	4/28/94	2.0	140	4100
	94-0431-41	Pipe trench "B"	4/28/94	4.0	c	c

^aBraun Intertec Corporation (Braun) 1995, *UST Closure Report, Site Assessment Report, Fort McClellan Building 1800, Calhoun County, Fort McClean, Alabama*, January.

^bTotal petroleum hydrocarbon compounds (EPA Method 418.1).

^cNo laboratory analysis performed.

^dNo depth listed in report.

mg/kg - Milligram per kilogram.

N/A - Not applicable.

Another UST (Parcel 42[7]) was located on the west side of Building 338, near the northwest corner of the building (Figure 1-3). This UST was a 2,500-gallon heating oil tank that was removed March 5, 1996. Approximately 3.5 cubic yards of soil was excavated and stockpiled on site. A soil sample was collected from the stockpile for analysis for total petroleum hydrocarbons. The sample result was 128 mg/kg. There were no other samples were collected because all of the potentially contaminated soil was reportedly excavated (THETA, 1996b). Groundwater was encountered at 8 feet bgs.

Building 326, Parcel 5(7), at one time had two USTs, and was possibly a former FTMC gas station. Reportedly, there was one 500-gallon MOGAS UST and one 500-gallon diesel UST located at this Building. These USTs were removed sometime between 1990 and 1991. The sample data for the UST excavation is listed in Table 2-2 was discovered in the UST files. The closure reports for the removal of the USTs are not available (ESE, 1998). Additional information is not available concerning the locations of the two USTs. During a November 1998 site visit by IT, the UST excavation locations were not found; however, the area inside the gate to the north and west of the building appear the likely locations of the previous USTs.

The FOMRA was identified as a Category 7 CERFA site. This CERFA site is a parcel where PSSCs were stored, and possibly released onto the site or to the environment, and/or were disposed of on site property. Limited sampling and analyses of soil and water have not verified whether or not there has been a potential release or disposal of PSSCs on site. The FOMRA lacks adequate documentation and, therefore, requires additional evaluation to determine the environmental condition of the parcel.

Table 2-2

**Historical Sample Data for UST Removal at Building 326, Parcel 5(7)
Fort McClellan, Calhoun County, Alabama**

Bldg No.	Sample ID No.	Sample Location	Sample Date	Pb-TCLP mg/L	Pb-Total mg/kg	TPH-9071 mg/kg	Benzene µg/kg	Ethyl Benzene µg/kg	Toluene µg/kg	Xylenes µg/kg
Parcel No. 5(7)PS										
326	C4480	Top half of tank	4/18/91	ND	2.2	1900	ND	ND	ND	ND
326	C4481	South side of tank	4/18/91	ND	54	530	ND	ND	ND	ND
326	C4482	North side of tank	4/18/91	ND	15	360	ND	110	7.8	82
326	C4483	North wall of tank	4/17/91	ND	15	300	ND	ND	ND	ND
326	C4484	East wall of tank	4/17/91	ND	18	420	ND	ND	ND	ND
326	C4485	West wall of tank	4/17/91	ND	26	140	ND	ND	ND	ND
326	C4486	Bottom hole of tank	4/17/91	ND	19	140	ND	ND	ND	ND
326	C4487	South side of tank	4/17/91	ND	20	ND	ND	ND	ND	ND

µg/kg - Microgram per kilogram.

mg/kg - Milligram per kilogram.

mg/L - Milligram per liter.

TCLP - Total characteristic leaching procedure.

3.0 Site-Specific Data Quality Objectives

3.1 Overview

The data quality objective (DQO) process is followed to establish data requirements. This process ensures that the proper quantity and quality of data are generated to support the decision-making process associated with the action selection for the FOMRA site. This section incorporates the components of the DQO process described in the EPA publication EPA 540-R-93-071 *Data Quality Objectives Process for Superfund* (EPA, 1993). The DQO process as applied to the FOMRA site is described in more detail in Section 4.3 of the WP. Table 3-1 provides a summary of the factors used to determine the appropriate quantity of samples, and the procedures necessary to meet the objectives of the SI and establish a basis for future action at this site.

The samples will be analyzed using EPA SW-846 methods, including Update III Methods where applicable, as presented in Chapter 4.0 in this SSFP and Table 6-1 in the QAP. Data will be reported and evaluated in accordance with Corps of Engineers South Atlantic Savannah (CESAS) Level B criteria (USACE, 1994) and the stipulated requirements for the generation of definitive data (Section 3.1.2 of the QAP). Chemical data will be reported via hard copy data packages by the laboratory using Contract Laboratory Program (CLP)-like forms. These packages will be validated in accordance with EPA National Functional Guidelines by Level III criteria.

3.2 Data Users and Available Data

The available data, presented in Table 3-1, related to the SI at the FOMRA site have been used to formulate a site-specific conceptual model. This conceptual model was developed to support the development of this SFSP, which is necessary to meet the objectives of these activities and to establish a basis for future action at the site. The data users for the data and information generated during field activities are primarily the EPA, USACE, ADEM, FTMC, and the USACE supporting contractors. This SFSP, along with the necessary companion documents, has been designed to provide the regulatory agencies with sufficient detail to reach a determination as to the adequacy of the scope of work. The program has also been designed to provide the level of defensible data and information required to confirm or rule out the existence of residual chemical contamination in site media.

Table 3-1

Summary of Data Quality Objectives
Site Investigation
Former Ordnance Motor Repair Area, Parcels 75(7), 41(7), 42(7), 5(7), 6(7), and 66(7)
Fort McClellan, Calhoun County, Alabama

Potential Data Users	Available Data	Conceptual Site Model	Media of Concern	Data Uses and Objectives	Data Types	Analytical Level	Data Quantity
EPA, ADEM USACE, DOD FTMC, IT Corporation Other contractors, and possible future land users	UST removal and closure data	<u>Contaminant Source</u> Former Ordnance Motor Repair Area and surrounding facilities <u>Migration Pathways</u> Infiltration to subsurface soil, infiltration and leaching to groundwater, dust emissions and volatilization to ambient air, and runoff and erosion to surface water and sediment. <u>Potential Receptors</u> Groundskeepers (current and future) construction workers (future), and residents (current and future) <u>PSSC</u> Paint products (paint, thinners, and solvents), small weapons cleaning solutions, metals, battery fluids, antifreeze, petroleum products (e.g., gasoline, diesel, heating oil, waste oil, and lubricants).	<u>Surface soil</u> <u>Subsurface Soil</u> <u>Groundwater</u> <u>Surface Water</u> <u>Sediment</u> <u>Depositional Soil</u>	SI to confirm the presence or absence of contamination in the site media Definitive quality data for future decision making	<u>Surface soil</u> TCL VOCs, TCL SVOCs, TAL Metals, Chlorinated Pesticides, PCBs, Chlorinated Herbicides, Organophosphorus Pesticides,	Definitive data in CESAS Level B data packages	63 direct-push soil samples + QC
					<u>Subsurface Soil</u> TCL VOCs, TCL SVOCs, TAL Metals, Chlorinated Pesticides, PCBs, Chlorinated Herbicides, Organophosphorus Pesticides,	Definitive data in CESAS Level B data packages	75 direct-push soil samples + QC
					<u>Direct-Push Groundwater</u> TCL VOCs, TCL SVOCs, TAL Metals, Chlorinated Pesticides, PCBs, Chlorinated Herbicides, Organophosphorus Pesticides,	Definitive data in CESAS Level B data packages	26 direct-push groundwater samples + QC
					<u>Surface Water</u> TCL VOCs, TCL SVOCs, TAL Metals, Chlorinated Pesticides, PCBs, Chlorinated Herbicides, Organophosphorus Pesticides,	Definitive data in CESAS Level B data packages	10 surface water samples + QC
					<u>Sediment</u> TCL VOCs, TCL SVOCs, TAL Metals, Chlorinated Pesticides, PCBs, Chlorinated Herbicides, Organophosphorus Pesticides, TOC and Grain Size	Definitive data in CESAS Level B data packages	10 sediment samples + QC
					<u>Depositional Soil</u> TCL VOCs, TCL SVOCs, TAL Metals, Chlorinated Pesticides, PCBs, Chlorinated Herbicides, and Organophosphorus Pesticides	Definitive data in CESAS Level B data packages	5 depositional soil samples + QC

ADEM - Alabama Department of Environmental Management.
CESAS - Corps of Engineers South Atlantic Savannah.
DOD - U.S. Department of Defense.
EPA - U.S. Environmental Protection Agency.
FTMC - Fort McClellan.
PCB - Polychlorinated biphenyl.

PSSC - Potential site-specific chemical.
QC - Quality control.
SI - Site inspection.
SVOC - Semivolatile organic compound.
TAL - Target analyte list.

TCL - Target Compound list.
TOC - Total organic carbon.
USACE - U.S. Army Corps of Engineers.
VOC - Volatile organic compound.

3.3 Conceptual Site Exposure Model

The conceptual site exposure model (CSEM) provides the basis for identifying and evaluating potential risks to human health in the risk assessment. The CSEM includes all receptors and potential exposure pathways appropriate to all plausible scenarios. The CSEM facilitates consistent and comprehensive evaluation of risk to human health through graphically presenting all possible exposure pathways, including all sources, release and transport pathways, and exposure routes. In addition, the CSEM helps to ensure that potential pathways are not overlooked. The elements of a complete exposure pathway and CSEM are:

- Source (i.e., contaminated environmental) media
- Contaminant release mechanisms
- Contaminant transport pathways
- Receptors
- Exposure pathways.

Contaminant release mechanisms and transport pathways are not relevant for direct receptor contact scenarios with a contaminated source medium.

This group of parcels is located in the central area of the Main Post. The site is an approximately 40-acre area that includes a number of buildings, a fenced compound, two active USTs, and five removed and/or inactive USTs. Since operations at the site commenced in the 1940s, a few petroleum, oil, and solvent leaks and spills have been reported in this area. It is likely that other releases of oil and hazardous material may have occurred in this area over the years, which are not on record. PSSCs include, oil, gasoline, TCA, weapons cleaning solvents and oils, paint, pesticides, lead batteries, metals, and asbestos.

Surface water at the site drains towards Cane Creek to the southwest. Groundwater is generally located at less than 20 feet bgs and probably follows the topography and mostly flows toward Cane Creek.

Primary contaminant releases were probably limited to leaks and spills that entered surface soil, although there is evidence that at least one cutting oil spill directly entered Cane Creek. Significant potential contaminant transport pathways include infiltration to subsurface soil, infiltration and leaching to groundwater, dust emissions and volatilization to ambient air, and surface water runoff and erosion to surface water and sediment.

Future land use in this area will probably be industrial. Plausible human health receptor scenarios addressed in the CSEM include:

- The resident scenario is included for current and future purposes as these are current on-site residents and continued residential usage is likely.
- The groundskeeper scenario is considered for both current future purposes, as at least a portion of the area is currently maintained, and will probably be maintained in the future
- The construction worker scenario is considered for future purposes only, because the site is currently not under construction, but could undergo construction in preparing for, or during, future use(s) under the anticipated industrial site usage.

Human health receptor scenarios excluded from the CSEM include:

- The recreational site-user scenario is excluded because the area is currently an industrial area that is not used for recreational purposes, and is expected to continue as such into the foreseeable future.
- The venison and fish consumption scenarios are excluded because this area is not large enough to support substantive hunting activities and the seasonal tributary would not support fishing activities.

A summary of relevant contaminant release and transport mechanisms, source and exposure media, and receptors and exposure pathways for this site is provided in Table 3-1 and Figure 3-1.

3.4 Decision-Making Process, Data Uses, and Needs

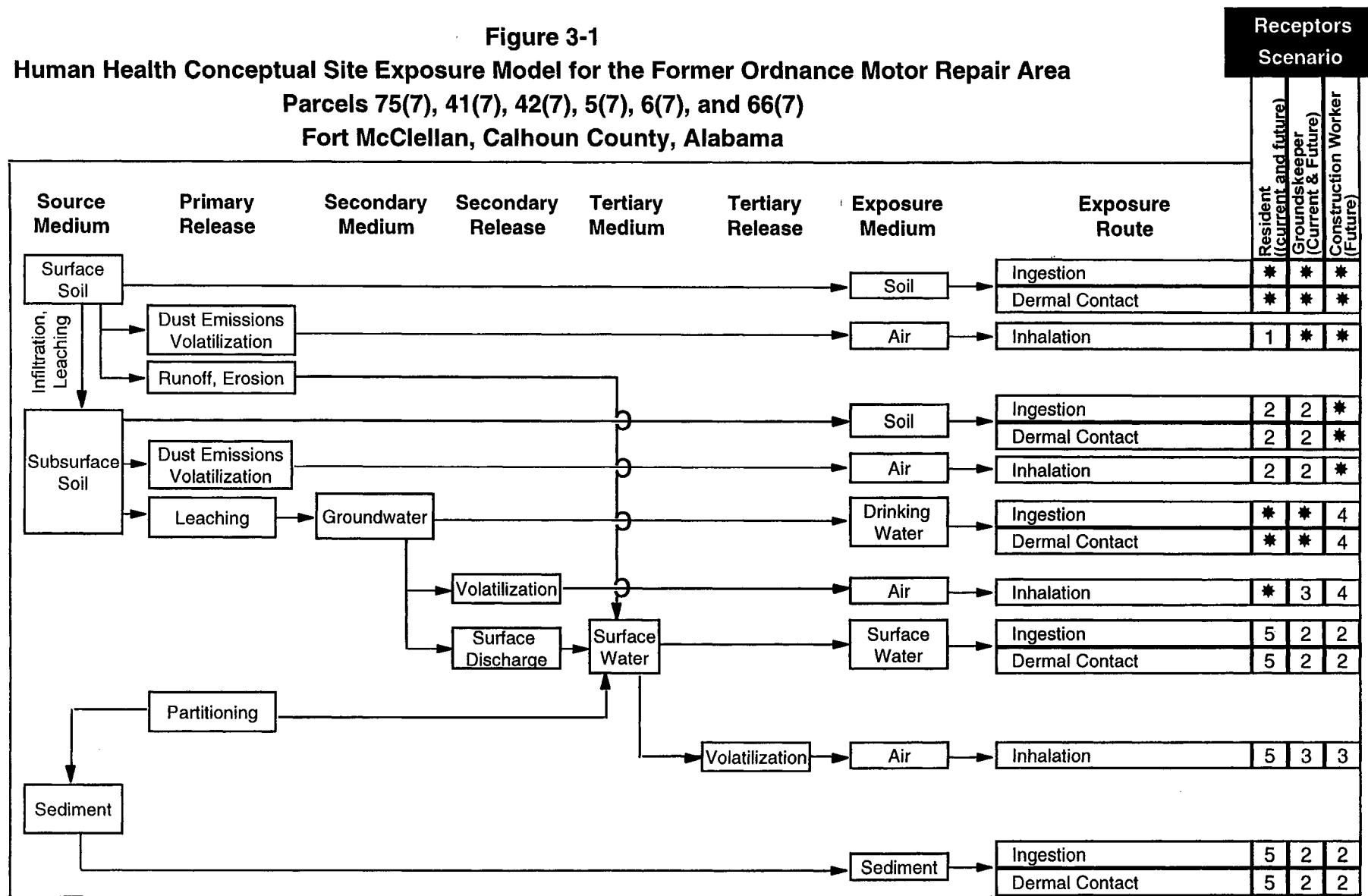
The decision-making process consists of a seven-step process that is presented in detail in Section 4.3 of the WP and will be followed during the SI at the FOMRA site. Data uses and needs are summarized in Table 3-1.

3.4.1 Risk Evaluation

Confirmation of contamination at the FOMRA will be based on comparing detected site chemicals of potential concern (COPC) to site-specific screening levels developed in the WP. EPA definitive data with CESAS Level B data packages will be used to achieve detection limits sufficient to determine whether or not the established guidance criteria are exceeded in site media. Definitive data will be adequate for confirming the presence of site contamination and for supporting a feasibility study and risk assessment.

Figure 3-1

**Human Health Conceptual Site Exposure Model for the Former Ordnance Motor Repair Area
Parcels 75(7), 41(7), 42(7), 5(7), 6(7), and 66(7)
Fort McClellan, Calhoun County, Alabama**



* = Complete exposure pathway quantified in SSSL development.

1 = Volatilization from undisturbed surface soil deemed insignificant; soil is likely to be paved or vegetated, reducing dust emissions to insignificant levels; inhalation pathway not quantified.

2 = Incomplete exposure pathway.

3 = Although theoretically complete, this pathway is judged to be insignificant.

4 = Although theoretically complete, these pathways are not quantified for the construction worker because SSSLs developed for the groundskeeper would be at least as restrictive.

5 = Although theoretically complete, SSSLs for these pathways are developed only for the recreational site user. SSSLs developed for the recreational site user may be used to estimate risk for this receptor.

Assessment of potential ecological risk associated with sites or parcels (e.g., surface water and sediment sampling, specific ecological assessment methods, etc.) will be addressed in the installation-wide work plan.

3.4.2 Data Types and Quality

Surface and subsurface soil, groundwater, surface water, sediment, and depositional soil will be sampled and analyzed to meet the objectives of the SI at the FOMRA site. Quality assurance/quality control (QA/QC) samples will be collected for all sample types as described in Chapter 4.0 of this SFSP. Samples will be analyzed by EPA-approved SW-846 methods Update III, where available; comply with EPA definitive data requirements; and be reported using hard copy data packages. In addition to meeting the quality needs of this SI, data analyzed at this level of quality are appropriate for all phases of site characterization, remedial investigation, and risk assessment.

3.4.3 Precision, Accuracy, and Completeness

Laboratory requirements of precision, accuracy, and completeness for this SI are provided in Chapter 9.0 of the QAP.